WALLDRIP Project Pioneers Pesticide-Free Insect Repellent Drip Irrigation System

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A collaborative research initiative, the WALLDRIP project, is advancing the development of a groundbreaking drip irrigation system designed to protect against insect damage without the use of conventional pesticides. This innovative system incorporates natural insect repellent additives directly into the composition of irrigation pipes and emitters, promoting sustainable agricultural practices.

The WALLDRIP project is a joint effort between AZUD, a leader in efficient filtration and irrigation systems; AIMPLAS, the Plastics Technology Centre specializing in polymeric materials; the Centre of Soil Science and Applied Biology of the Segura CEBAS-CSIC; and the Murcian Institute of Agricultural and Environmental Research and Development (IMIDA). This collaboration is aimed at addressing the often-overlooked issue of insect-induced damage to irrigation infrastructure.

The project aligns with the European Union's push to minimize chemical use in agriculture. By integrating natural repellents into the irrigation system's materials, WALLDRIP aims to provide a sustainable alternative to traditional pesticide applications. The project will produce two high-precision emitter pipe prototypes with integrated pest protection mechanisms, targeting crops of significant societal importance.

Elena Domínguez, a leading researcher in Controlled Release and Soil Quality at AIMPLAS, emphasized the project's focus on developing integrated, sustainable solutions. "We are aiming to create irrigation pipes and emitters that can protect themselves through modifications in their manufacturing process and design," Domínguez stated. "For the pipes, we are incorporating repellent substances that are environmentally friendly and protect the irrigation installation, thereby increasing its durability."

The WALLDRIP project, funded by the Ministry of Science, Innovation and Universities and the European

Union’s Next Generation funds, seeks to eliminate the environmental impact of direct pesticide applications, enhance the durability of irrigation systems, and reduce the carbon footprint associated with water optimization in agriculture.

About AIMPLAS:

AIMPLAS, the Plastics Technology Centre, is a non-profit research association dedicated to providing added value to companies, fostering wealth creation, and addressing societal challenges related to environmental sustainability. As a member of REDIT (Network of Technological Institutes of the Valencia Region), AIMPLAS offers comprehensive solutions to the plastics industry, including research and development projects, training, strategic intelligence, and technological services.